JOINT MANAGEMENT PLAN REVIEW
DRAFT ACTION PLAN:
Coastal Development: Dredge Disposal

REVISED: May 21, 2003

***Please Note**: The MBNMS and the Sanctuary Advisory Council have tasked the management plan working groups with development of draft action plans that characterize the issue or problem and identify strategies and activities that address the issue. The working groups will develop these strategies and activities as they meet over the next several months. With this goal in mind, the progress of the group, the decisions and areas of agreement will be outlined in a progressively developed action plan identifying draft goals, issue characterizations, and strategies and activities. Members of the group as well as other interested parties should look to this draft action plan as it develops as a way of tracking the group's progress and decisions.*

Introduction

The periodic dredging of the local harbors is a necessary component of keeping the harbor channels clear and allowing access for all types of vessels. Although MBNMS regulations broadly prohibit disturbing the seabed, the specific act of dredging for harbors and their channels is specifically exempted by these regulations. Additionally, because dredging generally occurs with a port or harbor which is outside the MBNMS boundaries it is afforded further exception from the regulations. However, the MBNMS does have a regulatory role when considering proposals to dispose of dredged disposal sediments offshore within the National Marine Sanctuary.

This working group has reviewed and discussed various issues related to dredge disposal that have arisen since designation of the MBNMS, including: disposal volumes, grain size, locations of existing sites, sedimentation sources, pier reconstruction at Moss Landing, sediment transport, beach nourishment, research gaps, dredge disposal and permit procedures. With input from agencies, harbormasters and other stakeholders, this review has focused on the continued protection of MBNMS resources, while also accommodating the disposal of harbor sediments when appropriate.

Harbors Adjacent to the MBNMS

There are four major harbors adjacent to the Monterey Bay National Marine Sanctuary (MBNMS). Two of these harbors regularly dredge the bottom of the harbor. Harbors dispose of their dredged material either in the ocean, on land at landfill sites, or at designated beach nourishment sites adjacent to the harbors. When the MBNMS was designated in 1992, two existing offshore sites for dredge disposal were identified, and the establishment of new sites was

prohibited within its boundaries. However, since that time, the MBNMS has recognized and authorized the use of two additional disposal sites at Santa Cruz and Monterey Harbors, because MBNMS staff determined these sites were in use and permitted by other agencies prior to designation.

How Does the MBNMS Currently Address Dredge Disposal?

The MBNMS is mandated to approach resource protection from a broad, ecosystem-based perspective. This requires consideration of a complex array of habitats, species, and interconnected processes and their relationship to human activities. This is best stated by language directly from the National Marine Sanctuary Act which states one of the overarching goals of the Sanctuary program. That goal is to "Maintain the natural biological communities in the national marine sanctuaries, and to protect, and where appropriate, restore and enhance natural habitats, populations and ecological processes". In accomplishing this goal the MBNMS intends to continue coordination with harbors to allow for disposal activities while protecting Sanctuary resources. We recognize that harbors are the gateways to accessing the MBNMS, and that physical processes, such as sediment movement, are important factors in controlling habitat, coastal erosion and littoral transport.

The MBNMS works with other state and federal agencies to ensure that MBNMS resources are protected. The MBNMS coordinates with the California Coastal Commission, the US Army Corps of Engineers, Environmental Protection Agency, the Regional Water Quality Control Board, California Department of Fish and Game, National Marine Fisheries Service, and the US Fish and Wildlife Service to review and authorize dredge disposal, as well as other discharges within the MBNMS. The MBNMS reviews the composition of the sediment, volumes, grain size, and associated contaminant load, to determine if the dredge sediments are appropriate for disposal in the ocean and comply with the provisions of relevant laws such as the Clean Water Act and the National Marine Sanctuaries Act. Most agencies have a specific mandate under which they view the potential disposal impacts, such as Essential Fish Habitat, or effects as they pertain to the Endangered Species Act. The MBNMS examines the issue from a larger holistic view of ecosystem protection.

The MBNMS regulations at Section 922.132 of 15 CFR describe prohibited or otherwise regulated activities. This section states that dredge disposal is prohibited within the MBNMS except for dredged material deposited at disposal sites authorized by the U.S. Environmental Protection Agency (EPA) (in consultation with the U.S. Army Corps. of Engineers (COE)) prior to the effective date of Sanctuary designation (January 1, 1993), provided that the activity is pursuant to, and complies with the terms and conditions of, a valid Federal permit or approval.

The MBNMS regulations exempted dredge disposal activities that complied with a federal permit or approval existing on January 1, 1993. However, current dredge disposal permits and the associated needs do not fall into this category as the permits for disposal have since expired. Therefore, additional disposal at such previously approved or permitted sites must be approved by NOAA in accordance with the authorization process (§944.11).

A MBNMS "authorization" must be obtained from local harbors when disposing of dredge sediments in the MBNMS (pursuant to MBNMS regulations at 15 CFR §§ 922.132(a)(2)(i), 922.132(f) and 922.49). The MBNMS works collectively with other agencies and "authorizes" other agency permits, generally the USACE or the CCC. This authorization comes in the form of either a "no objection" letter to the primary permitting agency (generally either the USACE or the CCC), a letter to another agency which recommends special conditions be added to that agency's primary permit, or in the form of an "authorization" issued directly to the harbor, which includes special conditions to ensure that these sediments are not adversely affecting the marine ecosystem and MBNMS resources.

These reviews minimize impacts to MBNMS resources while allowing the continued operation of our critical local harbors. MBNMS officials have allowed approximately 98% (by volume) of all dredge sediment proposed by local harbors for offshore disposal in the MBNMS since 1992.

The two harbors which regularly dredge, Santa Cruz Harbor and Moss Landing Harbor, dispose of the bulk of their dredge sediments within the MBNMS. In 1992, as stated in the MBNMS Final Environmental Impact Statement/ Management Plan, the dredging needs of Santa Cruz Harbor were on the order of removal of 100,000 to 130,000 cubic yards of sand per year. Moss Landing Harbor in 1992 was known to require dredging every two to three years with an associated volume of 50,000 cubic yards removed per cycle.

Currently the Santa Cruz Harbor has a MBNMS authorization to dispose of 360,000 cubic yards per year in the MBNMS. Moss Landing Harbor has a MBNMS authorization which allows for the disposal of 100,000 cubic yards of dredge sediments per year. The need for increased permitted volumes of material within a two-year period is thought to be due to natural events such as El Niño. Heavy rains associated with this phenomena often cause increased erosion in watersheds, and result in heavy sediment loading at the endpoint of rivers, in this case, the two harbors. Heavy winter storm conditions and high surf, also resultant from El Niño conditions, are known to deposit increased volumes of sand at the mouth of entrance channels during those El Niño years.

STRATEGIES OF THE COASTAL DEVELOPMENT: DREDGE DISPOSAL ACTION PLAN

Goal of the Action Plan:
To develop a program with harbor managers and other stakeholders to address the need for disposal of dredged materials and the continued protection of MBNMS resources.

STRATEGY #1 CODIFY EXISTING SITES

This strategy recognizes the need to codify dredge disposal sites that have been recognized, after MBNMS designation, as being historical disposal sites.

Activity A: Codifying existing sites
Since designation, Santa Cruz and Monterey Harbors have identified additional disposal sites which were in historic use prior to MBNMS designation. These sites have since been authorized for use via letters from the Sanctuary program. Workgroup recommendations include:

- Codification of two historical sites in the new management plan
- Determine if the Santa Cruz Harbor disposal site warrants enlargement or shifting, for the purpose of complying with a request by the Monterey Bay Unified Air Pollution Control Agency to move the dredge disposal pipe to a deeper location to mitigate hydrogen sulfide fumes emanating from the dredged material
- Evaluate potential environmental and legal issues related to potential expansion of Santa Cruz disposal area

Project status: Phase 1, with preliminary actions required during the JMPR
Potential partners:

STRATEGY #2: IMPROVE INTER-AGENCY COORDINATION

The MBNMS will continue its role in authorizing permits for dredge disposal, while considering and improving the interagency review process. This strategy recognizes the need to improve interagency coordination for the purpose of streamlining the authorization process.

Activity A: Coordinated permit review

The interagency coordination and review process for dredge disposal is quite complicated. Increased efficiency and coordination is needed on the review of harbor permit applications, as well as a strengthening of the collaborative approach to solving issues between the harbors and agencies. Articulating issues or concerns to the group as a whole may improve understanding of the various issues and foster a more streamlined approach to the management of dredge disposal within a National Marine Sanctuary. The MBNMS will continue to coordinate with the Coastal Commission, the USACE, and the EPA to review permits and authorizations. Workgroup recommendations include:

- Work collaboratively with others to establish an interagency Central Coast Dredge Team which would meet at regular intervals to discuss the myriad of issues related to the dredge disposal processes. This team should also identify and develop a regional plan, which provides for input from stakeholders, and addresses disposal needs at various locations
- Improve understanding of joint agency roles
- Encourage harbors to undertake advanced planning and coordination which may minimize the need for emergency permits
- Schedule permit planning meetings with agencies and harbors in advance of the application process to address needs and collectively evaluate both the regular and emergency permit process, to include agency concerns and conditions in the permit
- Evaluate other joint-permit programs
- Where appropriate, align agency permits so that each permit or authorization is valid for the same time interval
- Consider changes to dredge disposal practices, methods, and operations to benefit the resources, such as timing disposal events with winter storms, changing the methodology to increase oxygen levels or adding an additional pipe, where appropriate. Consider the natural sedimentation processes and, where beneficial, mimic them

Project status: Phase 2
Potential partners: regulatory agencies, harbors, others

Activity B: Increase permit review efficiency by issuing multi-year authorizations
The MBNMS has issued multi-year authorizations in the past. The MBNMS issues authorizations under the process outlined on page 3 of this document as stated under section 944.11. The authorization interval could potentially be increased to provide efficiency for both the harbor as well as the MBNMS. Workgroup recommendations include:

- Coordinating the timing and conditions of the multi-year permit process
- Agencies should continue to review specific disposal episodes
- Multi-year authorizations should include language which will re-evaluate the conditions of the authorizations and may include additional testing, or sampling and monitoring requirements if additional contaminants are thought to be present.
- In establishing appropriate time intervals, balance opportunities for efficiency with the need for periodic comprehensive review and public input

Project status: Phase 2
Potential partners: regulatory agencies, harbors, others

STRATEGY #3 SEDIMENT MONITORING AND REDUCTION PROGRAM

This strategy recognizes the need to track and evaluate the call for increased disposal volumes, identify areas where improvements could be made to reduce increase sedimentation in harbors, evaluate contamination levels and sources, and conduct research to minimize information gaps.

Activity A: Analyze the need for changes in aquatic disposal volumes
Significant increases in the permit volume of dredge disposal sediments have been occurring within the MBNMS over the past 10 years. The Santa Cruz Harbor has increased their allowable permit volume by greater than 275% of the disposal quantity identified at the time of MBNMS designation. The Moss Landing Harbor has increased their allowable permit volume by 100% since MBNMS designation. In both instances, the MBNMS has authorized these increases. There are currently information gaps as to why this permitted increase is required. Workgroup recommendations include:

- Develop an interagency database for tracking actual volumes and volume changes. This database should build off existing USACE data and tracking system. This database should facilitate the submittal of electronic data and be web accessible for the public. Records of dredged volume should differentiate between and characterize the different types of sediment
- Analyze trends in volume data and the causes of increased volume requests in permits. Link this information to potential effects
- Encourage the use of technology to assess disposal volumes
- Work with others to promote monitoring at designated disposal sites to establish and evaluate long term trends and related habitat and biological impacts from increased volumes
- Track/Monitor sediment loading from watersheds, coastal transport, etc.
- The MBNMS should recognize that there may be natural inter-annual variation in the amounts which harbors need to discharge each year due to weather patterns, physical ocean conditions and watershed events. However, the MBNMS will analyze volume requests and potential impacts and may request information on causes and establish caps on allowed aquatic disposal volumes.

Project status: Phase 1
Potential partners: regulatory agencies, harbors, research institutions, others

Activity B: Sediment reduction program
Reduce the amount of dredge sediment entering the harbors, and hence reduce disposal needs into the MBNMS, by evaluating the watershed as a whole to determine where sediment reduction efforts could be implemented. Workgroup recommendations include:

- Promote keeping sediment in the watershed and restoring habitat which will reduce the need for dredging. The MBNMS should continue to encourage these

efforts with the agricultural and rural community as part of the MBNMS Agriculture and Rural Lands Plan which encourages farmers, ranchers, and rural landowners to use conservation practices on their properties to reduce runoff in the form of sediments, nutrients and pesticides. The MBNMS should also work with others to prevent urban runoff and sedimentation into the watersheds

- Explore tools to reduce entrapment of sediments by harbors, breakwaters, and other structures. Explore ways to better manage dredging – sand bypassing, sand traps, and other reengineering options for dredging; and as a result, reduce the need for increased disposal. These actions may also reduce the need for emergency permits

Project status: Phase 1
Potential partners: regulatory agencies, harbors, environmental organizations, others

Activity C: Evaluate and manage contamination and its source

This activity recognizes the need to evaluate contamination levels in dredged sediments. Contamination is usually related to fine grain sediment, whereas material high in sand content, which is larger in grain size, is relatively free of contamination. The physical characteristics of the sediment play a role in the strength of chemical adsorption and the active surface area of the particles. The Moss Landing Harbor 2002 results have yielded some of the most heavily contaminated sediments in recent years. Historical contamination issues should be addressed to better understand the problem. Workgroup recommendations include:

- Manage contamination—including pesticides, biological contaminants, PCB's, Butyltins, DDT's and others. Identify the upland sources of contaminated sediment. Promote solutions to address preventative contamination issues by linking to ongoing MBNMS water quality efforts
- Encourage funding for upland retention of contaminated sediments
- Develop partnerships and a means to address boating related contaminants and within harbor sources.
- Increase communication between harbors and agencies to ensure that information going to the public and elected officials is accurate
- Evaluate and expand existing educational materials and conduct education and outreach to the public on the issue.
- Conduct an assessment of the target audiences including, political officials, agriculture groups, and others to determine the best ways to package and distribute educational materials on contamination

Project status: Phase 1
Potential partners: regulatory agencies, harbors, environmental organizations, others

Activity D: **Research and monitoring:**
Information gaps could be reduced by conducting research to investigate the issue of dredge disposal. Analysis of dredging in the context of coastal erosion and sediment flow may improve the overall understanding of these processes. The final disposition of fine-grained materials and the subsequent impacts is often unknown. Workgroup recommendations include:

- Characterize and map contaminant levels in harbors to identify possible contamination sources, including a broad range of biological pathogens and microbial contamination to determine if it is of concern
- Characterize and map contaminant levels in surrounding watersheds, including DDT's, PCB's, Butyltins, and bio-pathogens to understand harbor contamination sources
- Encourage the continuation of monitoring programs that include harbors, such as Mussel Watch
- Continue to investigate the fate and effect of disposed material, both fine-grained and other
- Determine if the ultimate deposition is consistent with the intent of the disposal method.
- Encourage collaborations with research to pair ongoing survey work to include bathymetry mapping at harbor areas and disposal sites
- If changes in dredging depth are proposed for Moss Landing Harbor, consider possible linkages to tidal scour in Elkhorn Slough.

Project status: Phase 3
Potential partners: research institutions

STRATEGY #4 EVALUATION OF GRAIN SIZE ANALYSIS

The disposal of fine-grained material is authorized at SF-12 and SF-14. Occasionally the MBNMS receives a request to consider disposal of fine-grained sediments adjacent to the Santa Cruz Harbor. This strategy will evaluate the issue of grain size.

Activity A: Grain size analysis

When determining if material is suitable for intertidal and subtidal disposal on local beaches adjacent to the harbors, the EPA relies on guidance which indicates that the dredged material should be composed of at least 80% sand. This is an EPA national guideline. Consideration of the appropriateness of variation from this guideline should be weighed carefully. Workgroup recommendations include:

- The MBNMS should continue to work with EPA/USACE to evaluate sediment suitability
- The MBNMS should continue to work closely on any project that would vary from EPA national guidelines on a case-by-case basis. The MBNMS will look very closely at any variances from those guidelines to ensure adequate protection of MBNMS resources
- The MBNMS should work with other agencies to determine criteria for disposing dredged material that is less than 80% sand

Project status: Phase 2
Potential partners: EPA, USACE

STRATEGY #5 EVALUATION OF RELOCATION / REDEFINITION OF SF 12 DREDGE DISPOSAL SITE

Activity A: SF-12:

There has been some confusion about the exact location of SF-12. However, recently the USACE and the EPA have determined the correct current location of the disposal site. This current site was originally intended as a deep-water site, however the location has some problems associated with it and is not meeting that goal. The Working Group recommends evaluating the Moss Landing disposal site (SF-12) in order to determine if shifting the location to the head of the Monterey Bay Canyon is warranted for the purpose of reducing environmental impacts to local beaches, and minimizing adverse impacts associated with dredge sediments to the nearshore region, the public, and the biological resources in the surf zone. This would also aid in minimizing potential adverse impacts to the Moss Landing Marine Laboratories seawater intake system. Workgroup recommendations include:

- Clarify and disseminate information on exact existing boundaries of SF-12 to all interested parties
- Evaluate whether the current location of the dredge disposal pipe is no longer the best option, considering environmental impacts, dredge disposal needs and pier reconstruction
- Evaluate legal aspects of potentially shifting the location of SF-12, while preserving its intended function; evaluate whether this would be allowed by Sanctuary program.
- Evaluate information on the environmental impacts of shifting the disposal location
- Provide environmental analysis to support the relocation or redefinition of this disposal site
- The MBNMS should take collaborative action with the USACE and the EPA to redefine this area, pending the results of the EIS analysis which will occur as part of the management plan analysis

Project status: Phase 1, with preliminary actions required during the JMPR
Potential partners: regulatory agencies, harbors, environmental organizations, research institutions, others

STRATEGY #6 ALTERNATIVE DISPOSAL METHODS

This strategy recognizes the need to evaluate land-based disposal methods. Approximately 98% of harbor sediments appropriate for unconfined aquatic disposal have been authorized by the MBNMS for disposal in the marine environment. Occasionally, there may be other uses for dredged sediments that meet standards for the given beneficial use.

The Santa Cruz Harbor and the Moss Landing Harbor both have areas adjacent to the harbors that have been designated as beach nourishment sites. Both Harbors dispose dredged material below mean high water at those locations. Two additional areas at Moss Landing (Zmudowski Beach and the north jetty) are deemed beach nourishment sites. These sites are above mean high water and therefore outside of the MBNMS. These sites are not authorized by the MBNMS for subtidal disposal. Disposal at Zmudowski Beach and the north jetty has not taken place since MBNMS designation. Any future disposal there would need to be accomplished above mean high water. At this time there does not seem to be a need for additional beach nourishment sites within the MBNMS, except for possibly at Pillar Point Harbor (see Strategy 7).

Activity A: **Evaluate potential beneficial usage**
The potential beneficial uses for dredge disposal and distribution patterns shall be examined. Workgroup recommendations include:

- Evaluate the beneficial uses of dredge disposal for suitable material
- Define what is meant by "suitable" sediment for different kinds of disposal. This definition will aid public perception and may clarify confusion on the issue.
- Encourage coordination of alternative uses for different levels of contamination for non-marine disposal, such as daily cover for landfills, wetland restoration work, or agricultural uses
- Encourage harbors to identify upland sites which would be available for a wide range of dredged material
- Recognizing that littoral sand is a MBNMS resource, identify when and where beach nourishment is appropriate, and what data is needed to make that determination. Evaluate sand transport and science needs. Should future scientific results and harbor needs indicate that additional beach nourishment sites would be appropriate, MBNMS regulations would need to be revised in the future.

Project status: Phase 1
Potential partners: regulatory agencies, harbors,

STRATEGY #7 PILLAR POINT HARBOR

The Pillar Point Harbor has not been dredged since the 1980's when the inner harbor was created. Currently the Pillar Point Harbor does not have a designated subtidal dredge disposal site directly adjacent to the harbor, however there is a beach present inside the harbor which may be able to receive dredged sediments. The harbor is currently contemplating a dredging effort, which would entail conducting maintenance dredging of the outer and inner harbor areas to eliminate sedimentation that has accumulated over the years. The estimated volume of this project would be approximately 72,000 cubic yards for the maintenance dredging component. This material is thought to be primarily sand. The harbor is also considering a possible expansion of berth capacity, which the Working Group requested be analyzed separately in the environmental analysis that will be required of this issue.

Activity A: Evaluate potential new dredge disposal site
Workgroup recommendations include:

- Analyze the need for new dredge disposal location at Pillar Point
- Evaluate options for allowing maintenance of this local harbor disposal while avoiding setting a precedent on new sites for Sanctuary program as a whole. Designation of a new disposal site would be a *significant* change to MBNMS regulations
- Evaluate potential locations for a new dredge disposal site
- Evaluate environmental impacts of the proposed disposal activity. Analyze information on the impacts of designating a new disposal site, including a thorough review of habitat and species impacts, contamination analysis, proposed volume information, grain size issues, etc. The analysis should distinguish between impacts of the disposal of maintenance dredging material and disposal from proposed berth expansion
- Evaluate potential benefits of the disposal activity, such as erosion reduction at Surfer's Beach
- Explore ways to better manage dredging needs – sand bypassing, breakwater design, sand traps, and other reengineering options for dredging; as identified in Strategy 3

Project status: Analysis = Phase 1, with preliminary actions required during the JMPR,
Decision = Phase 2
Potential partners: regulatory agencies, harbors, environmental organizations, others

Timeline for drafting MBNMS framework action plan: January 2003 – April 2003.